

1. A computer-implemented method for searching information in a search system having a plurality of resources and production rules for using, ordering and/or manipulating the resources, comprising:

5        augmenting the system's production rules based on a search strategy; and  
         dynamically determining at run-time the selection or order of said resources  
         according to the production rules along with the augmented production rules.

10       2. The method of claim 1, wherein the augmenting the system's production rules  
         comprises placing additional constraints on the production rules at run-time.

         3. The method of claim 1, wherein the augmenting the system's production rules  
         comprises nullifying one or more of the production rules at run-time.

15       4. The method of claim 1, further comprising specifying the search strategy during run-  
         time.

         5. The method of claim 1, wherein the search strategy is specified by a user.

20       6. The method of claim 1, wherein the search strategy is hard-coded.

         7. The method of claim 1, further comprising executing the search strategy over a  
         plurality of search passes over the resources.

25       8. The method of claim 7, wherein the search strategy of a search pass is modified by a  
         prior search pass.

         9. The method of claim 1, wherein the search strategy includes conditional operators that  
         are evaluated during the search.

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10. The method of claim 1, wherein one of the resource includes one of query processing resource, result processing resource and data source.

5 11. The method of claim 1, wherein the dynamic determining is controlled in accordance with the search strategy and a system state.

12. The method of claim 11, wherein the system state comprises a query.

10 13. The method of claim 11, wherein the system state comprises one or more messages passed among the resources.

14. The method of claim 7, further comprising modifying a query message received from one of the resources during one of said search passes for use in a subsequent pass.

15 15. The method of claim 14, wherein the modifying further comprises adding, deleting or changing of one or more keys in the query message.

16. The method of claim 7, further comprising modifying a data request received from one of the resources during one of said search passes for use in a subsequent pass.

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17. The method of claim 16, wherein the modifying further comprises adding, deleting or changing one or more keys in the query message.

18. The method of claim 7, further comprising adding a data request directed at one of the resources during one of said search passes for use in a subsequent pass.

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19. The method of claim 7, further comprising directing a query message at one of the resources over a route and altering the route during one of said search passes for use in a subsequent pass.

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20. The method of claim 7, further comprising locally routing a message received from one of the resources during one of said search passes for use in a subsequent pass.

22. The method of claim 7, further comprising answering or generating one or more  
5 control messages received from one of the resources during one of said search passes for use in a subsequent pass.

23. The method of claim 7, further comprising updating a next pass condition received from one of the resources during one of said search passes for use in a subsequent pass.

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24. The method of claim 1, further comprising optimizing a search result given the strategy and the production rules.

25. A system for searching information in a search system having a plurality of resources  
15 and production rules for using, ordering and/or manipulating those resources, comprising:  
means for augmenting the system's production rules based on a search strategy;  
and  
means for dynamically determining at run-time the selection or order of said  
resources according to said production rules along with the augmented production rules.

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26. A computer-implemented method for searching information, comprising:  
receiving a search strategy, the search strategy at least partially specifying at least  
one of the following: one or more search resources, interactions between search resources  
and conditions for the interactions;

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generating a search query object having a specified route listing a plurality of  
query processors to operate on the search query object, the route being influenced by the  
search strategy;

executing the plurality of query processors according to the specified route for  
receiving and processing the search query object;

generating at each of the query processors zero or more data request objects based on the search query object and one or more data request objects generated by one or more previously executed query processors; and

5 converting each data request object to a request associated with an outside data source that performs a search according to the converted request.

27. A search system for performing a search over a plurality of data sources via one or more search passes, the system comprising:

10 a search controller for: i) transmitting a search query object having a specified route which lists a plurality of query processors desired to be executed, the route being influenced by a search strategy; ii) receiving data request objects from the plurality of executed query processors and transmitting the data request objects to a plurality of data collectors, each data request object being transmitted to associated data collectors, iii) receiving result objects associated with the data requests from the data collectors, and iv)  
15 transmitting the result objects to a user interface for display;

the plurality of query processors being executed according to the specified route to receive and process the search query object, each of the query processors enabled to generate a data request object based on the search query object and one or more data request objects generated by one or more previously executed query processors; and

20 each of the plurality of data collectors enabled to convert a data request object received from the search controller to a request associated with an outside data source that performs a search according to the converted request, and each data collector enabled to convert a result of the search transmitted from the outside data source to a result object.

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28. A computer-implemented method for searching information in a search system having a plurality of resources and production rules for searching the resources, the search system having a default resource selection policy, the method comprising:

30 receiving a search strategy, the search strategy modifying the default resource selection policy during run-time;

augmenting the system's production rules based on the search strategy; and

dynamically determining at run-time the selection or order of said resources according to the production rules along with the augmented production rules.

29. A computer program product, tangibly stored on a computer-readable medium, for  
5 searching information in a search system having a plurality of resources and production rules for using the resources, the product comprising instructions operable to cause a programmable processor to:

augment the system's production rules based on a search strategy; and

dynamically determine at run-time the selection or order of said resources

10 according to the production rules along with the augmented production rules.

30. The computer program product of claim 29, wherein the augment instructions comprises instructions to place additional constraints on the production rules at run-time.

15 31. The computer program product of claim 29, wherein the augment instructions comprises instructions to nullify one or more of the production rules at run-time.

32. The computer program product of claim 29, further comprising instructions to specify  
the search strategy during run-time.

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33. The computer program product of claim 29, further comprising instructions to execute the search strategy over a plurality of search passes over the resources.

34. The computer program product of claim 33, wherein the search strategy of a search  
25 pass is modified by a prior search pass.

35. The computer program product of claim 29, wherein the dynamically determine instructions comprises instructions to control the search in accordance with the search strategy and a system state.

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- 36. The method of claim 1, wherein said using includes providing a query to said one or more resources and receiving at least one result therefrom, wherein said ordering includes determining a sequence in which said resources are queried, and wherein said manipulating includes controlling the operation of said one more resources.

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